

PROCESS STANDARDS EXPLANATIONS

The process standards provide the framework for teaching, learning, and assessing the content standards.

Problem Solving Standard

Instructional programs from prekindergarten through grade 12 should enable all students to accomplish the following:

- build new mathematical knowledge through problem solving;
- solve problems that arise in mathematics and in other contexts;
- apply and adapt a variety of appropriate strategies to solve problems; and
- monitor and reflect on the process of mathematical problem solving.

Reasoning and Proof Standard

Instructional programs from prekindergarten through grade 12 should enable all students to accomplish the following:

- recognize reasoning and proof as fundamental aspects of mathematics;
- make and investigate mathematical conjectures;
- develop and evaluate mathematical arguments and proofs; and
- select and use various types of reasoning and methods of proof.

Communication Standard

Instructional programs from prekindergarten through grade 12 should enable all students to accomplish the following:

- organize and consolidate their mathematical thinking through communication;
- communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- analyze and evaluate the mathematical thinking and strategies of others; and
- use the language of mathematics to express mathematical ideas precisely.

Connections Standard

Instructional programs from prekindergarten through grade 12 should enable all students to accomplish the following:

- recognize and use connections among mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole; and
- recognize and apply mathematics in contexts outside of mathematics.

Representation Standard

Instructional programs from prekindergarten through grade 12 should enable all students to accomplish the following:

- create and use representations to organize, record, and communicate mathematical ideas;
- select, apply, and translate among mathematical representations to solve problems; and
- use representations to model and interpret physical, social, and mathematical phenomena.